

REMARKS/DISCUSSION OF ISSUES

Summary

Claims 1-10 and 12-19 are pending in the application. Claims 1-15 are rejected. The drawings are objected to.

Claims 1, 3, 5, 6 and 15 are currently amended. Claim 11 is cancelled. Claims 16-19 are new.

Claim 1 is currently amended to incorporate the limitation of claim 11, and claim 11 is cancelled. Claims 3, 5 and 6 are currently amended to improve their form by removing the preferred ranges. The preferred ranges are now presented in new claims 16-19. Claim 15 is amended to improve its form.

The Examiner's acknowledgement of the claim for priority and receipt of copies of the priority documents is noted with appreciation.

Drawings

The drawings are objected to in failing to show: (a) a light transmitting element with an optically roughened surface facing the light source, as called for in claims 13 and 14; and (b) two substantially parallel, substantially optically smooth surfaces, as called for in claim 15.

A proposed new figure 3, showing a detailed portion of the embodiment of figure 1, is attached to this response. Figure 3 shows portions of the fixture 2 and the light transmitting element 4, with surfaces 2A, 2B, 4A and 4B, which are substantially parallel to one another.

The specification has been amended to refer to the new figure, and to provide a detailed description thereof, wherein it is explained that the surfaces 4A and 4B may be substantially optically smooth, or alternatively, one or both of these surfaces may be optically roughened.

No new matter has been added by these amendments. Support may be found, e.g., at page 4, lines 21, 22 and 24 of the specification.

Accordingly, it is urged that the objection to the drawings be withdrawn.

Claim 15

Claim 15 is rejected under 35 USC 112, second paragraph, in lacking antecedent basis for the limitations: (a) the surface of the light-transmitting element that faces toward the light source; (b) the surface of the lighting fixture facing toward the lamp; and (c) the lamp in lines 1-4.

Claim 15 is currently amended to call for the lighting fixture to have a surface facing the light source, and to call for a first surface of the light-transmitting element to face towards the light source and for a second surface to face towards the lighting fixture. Also, the term 'lamp' in the last line of the claim has been changed to 'light source' to render the terminology with respect to the light source consistent.

Thus, antecedent basis has been provided for the limitations: (a) the surface of the light-transmitting element that faces toward the light source; (b) the surface of the lighting fixture facing toward the light source; and (c) the light source.

Accordingly, the rejection under 35 USC 112, second paragraph, has been overcome and should be withdrawn.

Claims 1 and 7-13

Claims 1 and 7-13 are rejected under 35 USC 102(b) as being anticipated by Mabe et al. (U.S. patent 6,568,840) (herein 'Mabe').

Mabe discloses a vehicle lamp including a lamp body 3 and lens 2 which together form an integral optically transparent

housing, a light source 15 inside the housing, and a reflection layer 10 on the outside surface 301 of the lamp body 3.

Figs. 3-(B), 4-(A) and 4-(B) of the reference show the reflection layer 10 is formed from aluminum particles suspended in an oil varnish (102, 112, 122), with the aluminum particles in the form of flakes adhered to the surface 301 of the body 3 (Fig. 3-(B), adhered to the outer protective layer 13 (Fig. 4-(A) and dispersed throughout the oil varnish layer (Fig. 4-(B). In each case, the aluminum particles are fixed in place by the oil varnish layer, and the oil varnish layer completely fills the space between the body 3 and the protective layer 13.

Claim 1 is currently amended to call for the powder in the space to be 'free flowing', and claim 11 is cancelled. This amendment makes clear that Applicant's diffusely reflecting powder is not trapped inside a matrix (such as the oil varnish of Mabe), but is free flowing inside the space formed by the light-transmitting element.

Accordingly, claims 1, 7-10, 12 and 13 are not anticipated by Mabe, and the rejection should be withdrawn.

Claims 2-5

Claims 2-5 are rejected under 35 USC 103(a) as being unpatentable over Mabe and Ono (U.S. patent 6,830,354).

Ono discloses an aperture fluorescent lamp having a glass tube 1, a UV-reflective layer 2 on the inner surface of the glass tube 1, and a phosphor layer 3 on the UV reflective layer 2. See, e.g., Figs. 1A, 3A and 3B.

The UV-reflective layer 2 is made of metal oxide powder, such as aluminum oxide and zirconium oxide. Col. 10, lines 29-31. While Ono does not describe the method of formation of this layer 2, it is readily apparent from the drawings, e.g., Fig. 3B, that the layer 2 is rigidly adherent to the inner surface

of the glass tube 1, because it remains intact after the removal of a portion of the phosphor layer 3 in order to form the aperture 14. Thus, Ono's layer 2 is not made of free-flowing powder in a space.

Moreover, neither Mabe nor Ono teaches or suggests that their reflective layers contain any particles of calcium halophosphate, calcium pyrophosphate, BaSO_4 , MgO , YbO_3 or TiO_2 (claim 2), or that the particles have an average diameter ranging between 0.1 and 100 μm (claim 3), or that the particles are mixed with fine-grained Al_2O_3 particles having an average diameter which ranges between 10 and 50 nm (claim 4), or that the amount of fine-grained Al_2O_3 particles ranges between 0.1 and 5 wt. % (claim 5).

Such materials, particle sizes and amounts could only have been arrived with the aid of hindsight from Applicant's own teachings, which is not permitted in judging obviousness under Section 103.

Accordingly, claims 2-5 are patentable over the combination of Mabe and Ono, and the rejection should be withdrawn.

Claim 6, 14 and 15

Claims 6, 14 and 15 are rejected under 35 USC 103(a) as being unpatentable over Mabe.

Claim 15 is currently amended to specify that the powder is 'free flowing'. Thus, claim 15, as well as claims 6 and 14, which are dependent directly or indirectly on claim 1, are patentable for the reason that Mabe does not teach or suggest that his reflective layer is composed of free flowing powder.

Accordingly, claims 6, 14 and 15 are patentable over Mabe, and the rejection should be withdrawn.

In conclusion, Applicant respectfully requests the the Examiner to withdraw the rejections and objections of record, allow all the pending claims, and find the application to be in condition for allowance.

Respectfully submitted,



John C. Fox, Reg. 24,975
Consulting Patent Attorney
315-521-2627

Amendment(s) to the Drawing Figure(s):

The attached new informal drawing sheet includes a proposed new FIG. 3.

Attachment: One new drawing sheet